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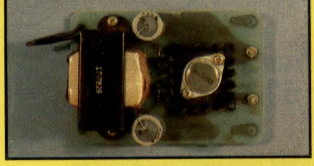
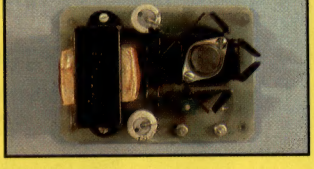
Jim-pak electronic components Quality Kits

Perfect for Schools, Hobbyists and Engineers

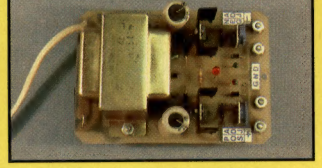
JE200
5 Volt Power Supply



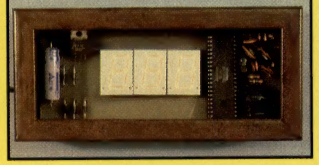
JE210
Adjustable Power Supply



JE215
Dual Power Supply

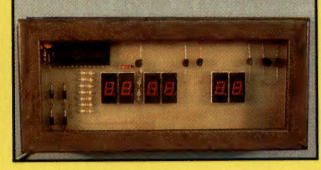


JE300
Digital Thermometer



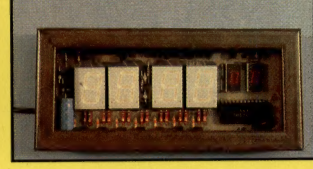
JE610
ASCII Keyboard

JE701
Digital Clock



JE730
Digital Clock

JE747
Digital Clock



JE750
Digital Alarm Clock

JE2206B
Function Generator

Front Cover: **JIM-PAK Display at Baynesville Electronics in Towson, MD**

7400 SERIES

Part No.	Description
7400	Quad 2-Input NAND Gate. . . . . (2 per pkg.)
7400	Quad 2-Input NAND Gate. . . . . (10 per pkg.)
7401	Quad 2-Input Gate (O.C.). . . . . (2 per pkg.)
7402	Quad 2-Input NOR Gate. . . . . (2 per pkg.)
7403	Quad 2-Input Gate (O.C.). . . . . (2 per pkg.)
7404	Hex Inverter. . . . . (2 per pkg.)
7404	Hex Inverter. . . . . (10 per pkg.)
7405	Hex Inverter (O.C.). . . . . (2 per pkg.)
7406	Hex Inverter Buffer/Driver. . . . . (2 per pkg.)
7407	Hex Buffer/Driver. . . . . (2 per pkg.)
7408	Quad 2-Input AND Gate. . . . . (2 per pkg.)
7410	Triple 3-Input NAND Gate. . . . . (2 per pkg.)
7411	3-Input Positive AND Gate. . . . . (2 per pkg.)
7414	Hex Schmitt Trigger
7416	Hex Inverter Buffer/Driver. . . . . (2 per pkg.)
7417	Hex Buffer/Driver. . . . . (2 per pkg.)
7420	Dual 4-Input NAND Gate. . . . . (2 per pkg.)
7421	Dual 4-Input Positive AND Gate. . . . . (2 per pkg.)
7425	Dual 4-Input NOR Gate. . . . . (2 per pkg.)
7430	Single 8-Input NAND Gate. . . . . (2 per pkg.)
7432	Quad 2-Input OR Gate. . . . . (2 per pkg.)
7437	Quad 2-Input NAND Buffer. . . . . (2 per pkg.)
7438	Quad 2-Input NAND Buffer (O.C.). . . . . (2 per pkg.)
7440	Dual 4-Input Buffer. . . . . (2 per pkg.)
7441	BCD-to-Decimal Decoder/Nixie Driver
7442	BCD-to-Decimal Decoder/Driver
7445	BCD-to-Decimal Decoder/Driver
7447	BCD-to-7 Segment Decoder/Driver
7447	BCD-to-7 Segment Decoder/Driver. . . . . (5 per pkg.)
7473	Dual JK M/S Flip Flop
7474	Dual D Flip Flop
7475	4-Bit Latches
7476	Dual JK M/S Flip Flop
7483	4-Bit Binary Full Adder
7485	4-Bit Mag Comparator
7486	Quad Exclusive-OR Gate. . . . . (2 per pkg.)
7489	16x4 Read/Write Memory
7490	Decade Counter
7490	Decade Counter. . . . . (5 per pkg.)
7492	Divide-by-Twelve Counter
7493	Binary Counter
7495	4-Bit Right/Left Shift Register
7496	5-Bit Parallel In/Out Shift Register
74100	4-Bit Bistable Latch
74107	4-Bit Dual JK M/S Flip Flop
74109	Dual JK P.E. Triggered Flip Flop. . . . . (2 per pkg.)
74121	Monostable One-Shot Multivibrator
74122	Retriggerable One-Shot
74123	Dual Retriggerable One-Shot
74125	Tri-State Quad Bus Buffer
74126	Tri-State Quad Bus Buffer
74132	Quad Schmitt Trigger
74141	BCD-to-Decimal Decoder/Driver
74145	BCD-to-Decimal Decoder/Driver
74150	16-Line to 1-Line Multiplexer
74151	8-Channel Digital Multiplexer
74153	Dual 4/1 Multiplexer
74154	4-Line to 16-Line Decoder
74157	Quad 2/1 Data Selector
74161	Presettable 4-Bit Binary Counter
74163	Synchronous 4-Bit Counter
74164	8-Bit Serial Shift Register
74165	Parallel Load 8-Bit Shift Register
74174	Hex D Flip Flop with Clear
74175	Quad D Flip Flop with Clear
74176	BCD Decade Counter
74177	4-Bit Binary Counter
74179	4-Bit Parallel-Access Shift Register
74181	Arithmetic Logic Unit
74191	Synchronous Binary Up/Down Counter
74192	Up/Down 4-Bit Decade Counter
74193	Up/Down 4-Bit Binary Counter
74196	Presettable Decade Counter

7400 SERIES

Part No.	Description
74197	Presettable Binary Counter
74279	Quad Debouncer
74365	Tri-State Hex Buffer
74366	Tri-State Hex Buffer
74367	Tri-State Hex Buffer
74368	Tri-State Hex Buffer
74390	Dual 4-Bit Decade Counter
74393	Dual 4-Bit Binary Counter with Clocks

74LS SERIES

Part No.	Description
74LS00	Quad 2-Input NAND Gate
74LS02	Quad 2-Input NOR Gate
74LS04	Hex Inverter
74LS08	Quad 2-Input AND Gate
74LS10	Triple 3-Input NAND Gate
74LS11	Triple 3-Input AND Gate
74LS14	Hex Schmitt Trigger
74LS20	Dual 4-Input NAND Gate
74LS30	Single 8-Input NAND Gate
74LS32	Quad 2-Input OR Gate
74LS38	Quad 2-Input NAND Buffer (O.C.)
74LS42	BCD-to-Decimal Decoder/Driver
74LS47	BCD-to-7 Segment Decoder/Driver
74LS48	BCD-to-7 Segment Decoder/Driver
74LS73	Dual JK M/S Flip Flop
74LS74	Dual D Flip Flop
74LS75	4-Bit Latches
74LS76	Dual JK Flip Flop with Preset-Clear
74LS83	4-Bit Binary Full Adders
74LS85	4-Bit Mag Comparator
74LS86	Quad 2-Input Exclusive-OR Gate
74LS90	Decade Counter
74LS92	Divide-by-Twelve Counter
74LS93	4-Bit Binary Counter
74LS107	Dual JK Negative Edge Trigger Flip Flop
74LS109	Dual JK Triggered Flip Flop
74LS112	Dual JK Negative Edge Flip Flop
74LS123	Dual Retriggerable One-Shot
74LS125	Tri-State Quad Buffer
74LS132	Quad Schmitt Trigger
74LS136	Quad 2-Input Exclusive-OR Gate
74LS138	3-to-8 Line Decoder/Demultiplexer
74LS139	Expandable Dual 2/4 Decoder
74LS151	8-Input Multiplexer
74LS154	Single 4-16 Decoder
74LS157	Quad 2-1 Multiplexer
74LS161	Presettable Binary Counter
74LS163	Presettable Binary Counter-Clear
74LS164	8-Bit Shift Register
74LS165	Parallel 8-Bit Serial Shift Register
74LS166	8-Bit Shift Register
74LS174	Hex D Flip Flop with Clear
74LS175	Quad D Flip Flop with Clear
74LS191	Up/Down Binary Counter
74LS192	Up/Down 4-Bit Decade Counter
74LS193	Up/Down 4-Bit Binary Counter
74LS221	Dual One-Shot
74LS240	Octal Inverting Bus/Line Driver
74LS241	Octal Bus/Line Driver
74LS242	Quad Bus Transceiver Inverting
74LS243	Tri-State Quad Transceiver
74LS244	Octal Driver Non-Inverting Tri-State
74LS245	Octal Bus Transceiver Non-Inverting
74LS257	Quad 2-Input Multi. Tri-State
74LS258	Quad 2/1 Multiplexer
74LS273	8-Bit D Type Register
74LS279	Quad S-R Latches
74LS367	Tri-State Hex Buffer
74LS368	Tri-State Hex Buffer
74LS373	Octal Transparent Latch
74LS374	Octal Dual Flip Flop (Tri-State)
74LS393	Dual 4-Bit Binary Counter

74LS SERIES

Part No.	Description
74LS399	Quad 2-Mux./Q&Q Outputs
74LS640	Octal Bus Transceiver (Inverting) T.S.
74LS641	Octal Bus Transceiver (True) O.C.
74LS645	Octal Bus Transceiver (True) T.S.
74LS670	4x4 Register File (Tri-State)
81LS95	Tri-State Octal Buffer (74LS465)
81LS97	Tri-State Octal Buffer (74LS467)

CMOS

Part No.	Description
CD4001	Quad 2-Input NOR Gate
CD4002	Dual 4-Input NOR Gate
CD4006	18-Stage Static Shift Register
CD4009	Hex Buffer/Converter (Inverting)
CD4010	Hex Buffer/Converter
CD4011	Quad 2-Input NAND Gate
CD4013	Dual D Flip Flop with Set/Reset
CD4016	Quad Bilateral Switch
CD4017	Decade Counter/Divider
CD4018	Presettable Divide-by-N Counter
CD4020	14-Stage Binary Ripple Counter
CD4023	Triple 3-Input NAND Gate
CD4024	7-Stage Binary Counter
CD4027	Dual JK Master/Slave Flip Flop
CD4028	BCD-to-Decimal Decoder
CD4029	Presettable Up/Down Counter
CD4030	Quad Exclusive-OR Gate
CD4040	12-Stage Binary/Ripple Counter
CD4044	Quad 3-State NAND R/S Latch
CD4046	Micropower Phase-Locked Loop
CD4047	Monostable/Astable Multivibrator
CD4049	Hex Buffer/Converter (Inverting)
CD4050	Hex Buffer/Converter (Non-Inverting)
CD4051	Single 8-Channel Multiplexer
CD4060	14-Stage Ripple-Carry Binary
CD4066	Quad Bilateral Switch
CD4069	Hex Inverter
CD4070	Quad Exclusive-OR Gate
CD4071	Quad 2-Input OR Gate
CD4072	Dual 4-Input OR Gate
CD4081	Quad 2-Input AND Gate
CD4082	Dual 4-Input AND Gate
CD4093	Quad 2-Input NAND Schmitt Trigger
CD4511	BCD-to-7 Segment Latch/Decoder/Driver
CD4528	Dual Monostable Multivibrator
CD4538	Dual Precision Mono. Multivibrator (14538)
CD4543	BCD-to-7 Segment Decoder LCD (14543)

LINEAR

Part No.	Description
TL074CN	Quad Low Noise Bifet Op Amp
TL084CN	Gen. Purpose Bifet Quad Op Amp
LM301V	Improved Op Amp
LM305H	Positive Voltage Regulator
LM307V	Op Amp (Super 741)
LM308CN	Micro Power Op Amp
LM309KC	5 Volt Positive Regulator (TO-3)
LM310CN	Improved Op Amp (Voltage Follower)
LM311V	High Performance Voltage Comparator
LM317T	1.5 Amp Adjustable Positive Regulator (TO-220)
LM318CN	High Speed Op Amp
LM319N	High Speed Dual Comparator
LM320K-5 (7905K)	5V Neg Regulator (TO-3)
LM320K-12 (7912K)	12V Neg Regulator (TO-3)
LM320T-5 (7905T)	5V Neg Regulator (TO-220)
LM320T-12 (7912T)	12V Neg Regulator (TO-220)
LM320T-15 (7915T)	15V Neg Regulator (TO-220)
LM323K	5V 3 Amp Regulator (TO-3)
LM324N	Quad Low Power Op Amp
LM334Z	Constant Current Source
LM335Z	Voltage Mode Temp. Sensor
LM336Z	Voltage Reference (2.5V)
LM337T	1.5 Amp Adjustable Neg Regulator (TO-220)
LM338K	5 Amp Adjustable Pos Regulator (TO-3)

LINEAR

Part No.	Description
LM339N	Quad Comparator
LM340K-5 (7805K)	5V Pos Regulator (TO-3)
LM340K-12 (7812K)	12V Pos Regulator (TO-3)
LM340T-5 (7805T)	5V Pos Regulator (TO-220)
LM340T-12 (7812T)	12V Pos Regulator (TO-220)
LM340T-15 (7815T)	15V Pos Regulator (TO-220)
LF353N	Dual Bifet Op Amp
LF356N	JFET Input Op Amp
LM380N	2 Watt Audio Amp
LM384N	5 Watt Audio Amp
LM386N-3	Low Voltage Audio Amp .500W/9V
LM387N	Low Noise Dual Pre-Amp
LM555V	Timer
LM555V	Timer. . . . . (10 per pkg.)
XRL555V	Timer (Low Power LM555)
LM556N	Dual 555 Timer
NE558N	Quad Timer
NE564N	Digital Phase Locked Loop
LM565N	Phase Locked Loop
LM566CN	Function Generator
LM567V	Tone Decoder Phase Locked Loop
LM723N	Voltage Regulator
LM739N	Dual Low Noise Audio Preamp
LM741V	Compensated Op Amp
LM741V	Compensated Op Amp. . . . . (10 per pkg.)
LM747N	Dual 741 Op Amp
LM1458V	Dual Compensated Op Amp
LM1488N (75188)	Quad Line Driver RS232
LM1489N (75189)	Quad Line Receiver RS232
LM1556V (MC1456)	High Performance Op Amp
LM1871N	Radio Control Encoder/Transmitter (w/Xtal)
LM1872N	Radio Control Receiver/Decoder (w/Xtal)
LM2002T	8-Watt Audio Power Amp (TO-220)
XR2206N	Function Generator
CA3080E	Op Transconductance Amp
CA3130E	Super CMOS Op Amp
CA3140E	Op Amp MOS/FET
CA3146E	High-Voltage Transistor Array
CA3161E	BCD-to-7 Segment Decoder/Driver
CA3162E	Dual Slope, Rate Analog to Dig. Converter
MC3470P	Floppy Disk Read Amp System
LM3900N (CA3401)	Quad Amp
LM3905N	Precision Timer
LM3909N	LED Flasher
LM3914N	Bar-Graph Display Driver
LM3915N	3 DB Bar-Graph Display Driver
LM4136N	Quad Op Amp
NE5532	Dual Low-Noise Op Amp
NE5534	Low Noise Op Amp
7107CPL	3½ Digit A/D (LED) Converter
76477	Sound Generator
ADC0804LCN	8-Bit A/D Converter (1LSB)
DAC0806LCN	8-Bit D/A Converter (.78% Lin.)
DAC0808LCN	8-Bit D/A Converter (MC1408L8)
ADC0809CCN	8-Bit A/D Converter (8-Channel MPX)
ADC0817CCN	8-Bit A/D Converter (16-Channel MPX)

MICROPROCESSOR

Part No.	Description
Z80	CPU (2.5MHz)
Z80A	CPU (4MHz)
Z80A-CTC	Counter Timer Circuit
Z80A-PIO	Parallel I/O Interface Controller
Z80B	CPU (6MHz)
HD-0165-5	Keyboard Encoder (16 Key)
UPD416 (MK4116)	16K Dynamic RAM (MM5290N)
2101	256x4 Static RAM
2102	1024x1 Static RAM
21L02	1024x1 Static RAM (Low Power)
2114-2	1024x4 (4K) Static RAM (200ns)
2708	8K EPROM 450ns
2716 (TMS2516)	16K EPROM (Single +5V Supply)
2732	32K EPROM 450ns (25V)

MICROPROCESSOR

Part No.	Description
2732A	32K EPROM 450ns (21V)
2764	64K EPROM 450ns (21V)
4164N-150	64K Dynamic RAM (150ns)
4164N-200	64K Dynamic RAM (200ns). . . . . (9 per pkg.)
MM5314N	24-Pin 6-Digit Clock Chip
6116P-4	16K Static CMOS RAM (200ns)
6116LP-4	16K Static CMOS RAM (200ns) Low Power
6264P-15	64K Static CMOS RAM (150ns)
6502A	MPU with Clock (2MHz)
6502B	MPU with Clock (3MHz)
6522	Versatile Interface Adapter
6800	8-Bit MPU
6810	128x8 Static RAM
6821 (6820)	Peripheral Inter. Adapt.
6845	CRT Controller (CRTC)
8080A	CPU
8085A	CPU 8-Bit N-Channel
8086	CPU 16-Bit (8MHz)
8088	CPU 16-Bit (8-Bit Data Bus)
8212	8-Bit Input/Output Port (for 8080A)
8216	Bi-Directional Bus Driver (for 8080A)
8224	Clock Generator and Driver (for 8080A)
8228	System Controller and Bus Driver (for 8080A)
8251A	Programmable Comm. I/O (USART)
8253-5	Programmable Interval Timer
8255A-5	Programmable Peripheral I/O (PPI)
8257-5	Programmable DMA Control
AY-5-1013	30K BAUD UART
AY-5-2376	Keyboard Encoder (88 Keys)
27128	128K EPROM 250ns (21V)
MM58167	Microprocessor Real Time Clock

LEDS

Part No.	Description
4N33	Single Channel Photo-Darlington (500% 1500V)
LMH-200	Plastic Clip & Ring (fits XC556). . . . . (8 per pkg.)
DL704 (MAN74)	Common Cathode Display .300 Red
DL707 (MAN72)	Common Anode Display .300 Red
DL3401 (DL747)	Common Anode Display .800 Red
DL3403 (DL750)	Common Cathode Display .800 Red
MA1002	.5 Red LED Clock & Transformer
MA1003	12VDC Auto/Instrument .300 Green
NSB5881	Common Cathode Multiplexed .500 Red
NSB5882	Common Anode Multiplexed .500 Red
XC556R	LED Lamp .200 Red. . . . . (5 per pkg.)
XC556R	LED Lamp .200 Red. . . . . (20 per pkg.)
XC556G	LED Lamp .200 Green. . . . . (4 per pkg.)
XC556Y	LED Lamp .200 Yellow. . . . . (4 per pkg.)
XC5491	Diffused Bi-Color (Red/Green) .200 Dia.
Cliplite — Red	Mounting for XC556R—Red. . . . . (4 per pkg.)
Cliplite — Green	Mounting for XC556G—Green. . . . . (4 per pkg.)
Cliplite — Yellow	Mounting for XC556Y—Yellow. . . . . (4 per pkg.)

I.C. SOCKETS

Part No.	Description
8-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
8-Pin LP	Low Profile IC Socket. . . . . (10 per pkg.)
14-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
14-Pin LP	Low Profile IC Socket. . . . . (10 per pkg.)
16-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
16-Pin LP	Low Profile IC Socket. . . . . (10 per pkg.)
18-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
20-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
22-Pin LP	Low Profile IC Socket. . . . . (2 per pkg.)
24-Pin LP	Low Profile IC Socket
28-Pin LP	Low Profile IC Socket
40-Pin LP	Low Profile IC Socket
14-Pin WW-Tin	Wire Wrap IC Socket — Tin
14-Pin WW	Wire Wrap IC Socket — Gold
14-Pin WW	Wire Wrap IC Socket — Gold. . . . . (3 per pkg.)
16-Pin WW-Tin	Wire Wrap IC Socket — Tin
16-Pin WW	Wire Wrap IC Socket — Gold
16-Pin WW	Wire Wrap IC Socket — Gold. . . . . (3 per pkg.)

I.C. SOCKETS

Part No.	Description
20-Pin WW	Wire Wrap IC Socket — Gold
24-Pin WW	Wire Wrap IC Socket — Gold
28-Pin WW	Wire Wrap IC Socket — Gold
40-Pin WW	Wire Wrap IC Socket — Gold
14-Pin Plug	Header Plug and Cover
16-Pin Plug	Header Plug and Cover
24-Pin Plug	Header Plug and Cover
TO-3	Socket. . . . . (2 per pkg.)
TO-5 (3-Pin)	Socket. . . . . (4 per pkg.)
216-3340	16-Pin Textool Test Socket
224-3344	24-Pin Textool Test Socket

POLYESTER CAPACITORS MYLAR

Part No.	Description
.001mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.0015mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.0022mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.0047mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.01mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.022mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.047mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.1mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
.22mfd	100V Mylar Capacitor. . . . . (4 per pkg.)
Mylar #120	10 each (12 values) (100V). . . . . (120 pcs.) .001 .0015 .0022 .0047 .01 .022 .033 .047 .1 .22 .33 .47mf

DIPPED CAPACITORS TANTALUM

Part No.	Description
.1mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
.22mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
.33mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
.47mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
.68mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
1mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
1.5mfd	35V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
2.2mfd	25V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
3.3mfd	25V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
4.7mfd	25V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
6.8mfd	25V Dipped Tantalum Capacitor. . . . . (2 per pkg.)
10mfd	25V Dipped Tantalum Capacitor
15mfd	25V Dipped Tantalum Capacitor
33mfd	25V Dipped Tantalum Capacitor
TANT #65	5 each (13 values) (25V & 35V). . . . . (65 pcs.) .1 .15 .22 .33 .47 .68 1 1.5 2.2 3.3 4.7 6.8 10

MINIATURE ALUM CAPACITORS ELECTROL. AXIAL

Part No.	Description
1mfd	50V Electrolytic Capacitor. . . . . (3 per pkg.)
4.7mfd	50V Electrolytic Capacitor. . . . . (2 per pkg.)
10mfd	50V Electrolytic Capacitor. . . . . (2 per pkg.)
22mfd	50V Electrolytic Capacitor. . . . . (2 per pkg.)
47mfd	50V Electrolytic Capacitor. . . . . (2 per pkg.)
100mfd	50V Electrolytic Capacitor
220mfd	50V Electrolytic Capacitor
470mfd	50V Electrolytic Capacitor
1000mfd	25V Electrolytic Capacitor
2200mfd	16V Electrolytic Capacitor
Axial #60	5 each (12 Values). . . . . (60 pcs.) .47/50V 1/50V 3.3/50V 4.7/50V 10/50V 22/50V 47/50V 100/50V 220/50V 470/50V 1000/25V 2200/16V

CERAMIC CAPACITORS DISC

Part No.	Description
10pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
47pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
100pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
220pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)

CERAMIC CAPACITORS DISC

Part No.	Description
330pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
470pf	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.001mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.0047mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.01mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.022mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.047mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
.1mfd	50V Ceramic Disc Capacitor. . . . . (4 per pkg.)
Disc #170	10 each (16 values) (50V). . . . . (170 pcs.)
	10pf 22 39 47 68 100 220 330 470
	.001 .0047 .01 .022 .033 .047 .1 (20 ea.)

CERAMIC CAPACITORS TRIMMER

Part No.	Description
TC4-34	4-34pf Ceramic Trimmer Capacitor. . . . . (2 per pkg.)
TC6-70	6-70pf Ceramic Trimmer Capacitor. . . . . (2 per pkg.)

DIODES

Part No.	Description
C38M (C36M)	600V 35 Amp SCR
C106B1	200V 3.6 Amp SCR
1N751	5.1V 400mW Zener Diode. . . . . (2 per pkg.)
1N757	9V 400mW Zener Diode. . . . . (2 per pkg.)
MDA980-3 (MDA990-3)	200V 12 Amp FW Bridge Rectifier
1N1188	400PIV 35 Amp Rectifier
1N1200	100PIV 12 Amp Rectifier
1N1204	400PIV 12 Amp Rectifier
1N3600	50PIV 200mA Switching Diode. . . . . (5 per pkg.)
1N4001	50PIV 1 Amp Rectifier. . . . . (4 per pkg.)
1N4004	400PIV 1 Amp Rectifier. . . . . (4 per pkg.)
1N4007	1000PIV 1 Amp Rectifier. . . . . (4 per pkg.)
1N4148 (1N914)	Switching Diode. . . . . (10 per pkg.)
1N4733	5.1V 1 Watt Zener Diode. . . . . (2 per pkg.)
1N4734	5.6V 1 Watt Zener Diode. . . . . (2 per pkg.)
1N4735	6.2V 1 Watt Zener Diode. . . . . (2 per pkg.)
1N4742	12V 1 Watt Zener Diode. . . . . (2 per pkg.)
1N4744	15V 1 Watt Zener Diode. . . . . (2 per pkg.)
1N5401	100PIV 3 Amp Rectifier. . . . . (3 per pkg.)
1N5408	1000PIV 3 Amp Rectifier. . . . . (3 per pkg.)

TRANSISTORS

Part No.	Description
TIP29A	NPN 15-150hFE Power
TIP30A	PNP 15-150hFE Power
TIP31A	NPN 10-50hFE Power
TIP32A	PNP 10-50hFE Power
TIP41A	NPN 15-150hFE Power
TIP42A	PNP 15-150hFE Power
TIS98	NPN 100mA 100-300hFE. . . . . (2 per pkg.)
2N2219A	NPN 500mA 100-200hFE. . . . . (2 per pkg.)
2N2222A	NPN 500mA 100-300hFE. . . . . (2 per pkg.)
2N2907A	PNP 500mA 100-300hFE. . . . . (2 per pkg.)
MJE2955T	PNP 10 Amp 20-70hFE
MJE3055T	NPN 10 Amp 20-70hFE
2N3055	NPN 15 Amp 20-70hFE
2N3772	NPN 150W 30 Amp 15-60hFE
2N3904	NPN 100mA 100-300hFE. . . . . (2 per pkg.)
2N3906	PNP 100mA 100-300hFE. . . . . (2 per pkg.)
2N4401	NPN 500mA 100-300hFE. . . . . (2 per pkg.)
2N4403	PNP 500mA 15-150hFE. . . . . (2 per pkg.)
2N5129	NPN 100mA 20-250hFE. . . . . (2 per pkg.)
2N5139	PNP 100mA 40-350hFE. . . . . (2 per pkg.)
2N5210	NPN 100mA 200-600hFE. . . . . (2 per pkg.)
2N5951	FET-N-Channel 360-500mV. . . . . (2 per pkg.)

¼ WATT 5%

RESISTORS

50 PC. ASSTS.

Part No.	Description
ASST. 1	10 12 15 18 22. . . . . 5 ea. (50 pcs.) 27 33 39 47 56
ASST. 2	68 82 100 120 150. . . . . 5 ea. (50 pcs.) 180 220 270 330 390
ASST. 3	470 560 680 820 1K. . . . . 5 ea. (50 pcs.) 1.2K 1.5K 1.8K 2.2K 2.7K
ASST. 4	3.3K 3.9K 4.7K 5.6K 6.8K. . . . . 5 ea. (50 pcs.) 8.2K 10K 12K 15K 18K
ASST. 5	22K 27K 33K 39K 47K. . . . . 5 ea. (50 pcs.) 56K 68K 82K 100K 120K
ASST. 6	150K 180K 220K 270K 330K. . . . . 5 ea. (50 pcs.) 390K 470K 560K 680K 820K
ASST. 7	1M 1.2M 1.5M 1.8M 2.2M. . . . . 5 ea. (50 pcs.) 2.7M 3.3M 3.9M 4.7M 5.6M
ASST. 8R	Includes Assortments 1-7 (70 values). . . . . (350 pcs.)

POTENTIOMETERS

Part No.	Description
840P100	Single Turn Potentiometer ½ Watt. 100ohm
840P500	Single Turn Potentiometer ½ Watt. 500ohm
840P1K	Single Turn Potentiometer ½ Watt. 1K
840P5K	Single Turn Potentiometer ½ Watt. 5K
840P10K	Single Turn Potentiometer ½ Watt. 10K
840P50K	Single Turn Potentiometer ½ Watt. 50K
840P100K	Single Turn Potentiometer ½ Watt. 100K
840P500K	Single Turn Potentiometer ½ Watt. 500K
840P1Meg	Single Turn Potentiometer ½ Watt. 1Meg
830P100	15-Turn Potentiometer ¾ Watt. 100ohm
830P500	15-Turn Potentiometer ¾ Watt. 500ohm
830P1K	15-Turn Potentiometer ¾ Watt. 1K
830P5K	15-Turn Potentiometer ¾ Watt. 5K
830P10K	15-Turn Potentiometer ¾ Watt. 10K
830P50K	15-Turn Potentiometer ¾ Watt. 50K
830P100K	15-Turn Potentiometer ¾ Watt. 100K
830P500K	15-Turn Potentiometer ¾ Watt. 500K
830P1Meg	15-Turn Potentiometer ¾ Watt. 1Meg
CMU1021	2 Watt Linear Taper (⅞ inch Slotted Shaft). 1K
CMU5021	2 Watt Linear Taper (⅞ inch Slotted Shaft). 5K
CMU1031	2 Watt Linear Taper (⅞ inch Slotted Shaft). 10K
CMU2531	2 Watt Linear Taper (⅞ inch Slotted Shaft). 25K
CMU5031	2 Watt Linear Taper (⅞ inch Slotted Shaft). 50K
CMU1041	2 Watt Linear Taper (⅞ inch Slotted Shaft). 100K
CMU1052	2 Watt Linear Taper (⅞ inch Slotted Shaft). 1Meg

SWITCHES

Part No.	Description
206-4 Dip	SPST 4 Station Dip
206-8 Dip	SPST 8 Station Dip
FTE01 Toggle	SPDT On-Off-On (JMT121)
FTD01 Toggle	SPDT On-None-On (JMT123)
FTP01 Toggle	DPDT On-Off-On (JMT221)
FTN01 Toggle	DPDT On-None-On (JMT223)
FPD01 Push Button	SPDT Maintained Action (PB123)
FPF01 Push Button	SPDT Momentary Action (PB126)
MS102 Push Button	SPST Normally Open Subminiature. . . . . (2 per pkg.)
MS103 Push Button	SPST Normally Closed Subminiature. . . . . (2 per pkg.)
J-188-1 Push Button	SPST On-Off
J-188-2 Push Button	SPST Normally Open
J-188-3 Push Button	SPST Normally Closed
46206 Slide	DPDT Slide Switch. . . . . (2 per pkg.)

CRYSTALS

Part No.	Description
CY1A	1Mhz/HC33 Case
CY2A	2MHz/HC33 Case
CY2.45	2.4576MHz/HC33 Case
CY3.57	3.579545MHz/HC18 Case
CY4A	4MHz/HC18 Case

CRYSTALS

Part No.	Description
CY4.91	4.916MHz/HC18 Case
CY6.00	6.000MHz/HC18 Case
CY6.14	6.144MHz/HC18 Case
CY8.00	8.000MHz/HC18 Case
CY10A	10MHz/HC18 Case
CY14A	14.31818MHz/HC18 Case
CY16.00	16.000MHz/HC18 Case

CONNECTORS

Part No.	Description
C20 (.100 ctr)	20 Contact Card-Edge (Flat Cable)
C26 (.100 ctr)	26 Contact Card-Edge (Flat Cable)
C34 (.100 ctr)	34 Contact Card-Edge (Flat Cable)
C40 (.100 ctr)	40 Contact Card-Edge (Flat Cable)
C50 (.100 ctr)	50 Contact Card-Edge (Flat Cable)
S20 (.100 ctr)	20 Contact Socket (Flat Cable)
S26 (.100 ctr)	26 Contact Socket (Flat Cable)
S34 (.100 ctr)	34 Contact Socket (Flat Cable)
S40 (.100 ctr)	40 Contact Socket (Flat Cable)
S50 (.100 ctr)	50 Contact Socket (Flat Cable)
CDE9P	9 Contact Plug (Flat Cable)
CDE9S	9 Contact Socket (Flat Cable)
CDA15P	15 Contact Plug (Flat Cable)
CDA15S	15 Contact Socket (Flat Cable)
CDB25P	25 Contact Plug (Flat Cable) RS232
CDB25S	25 Contact Socket (Flat Cable) RS232
CDC37P	37 Contact Plug (Flat Cable)
CDC37S	37 Contact Socket (Flat Cable)
CEN36M (Centronics)	36 Contact Plug (Flat Cable)
CEN36F (Centronics)	36 Contact Socket (Flat Cable)
DE9P	9 Contact Plug (Solder type)
DE9S	9 Contact Socket (Solder type)
DE9H	DE9 Series Hood
DA15P	15 Contact Plug (Solder type)
DA15S	15 Contact Socket (Solder type)
DA15H	DA15 Series Hood
DB25P	25 Contact Plug (Solder type) RS232
DB25S	25 Contact Socket (Solder type) RS232
DB25H (DB51226)	DB25 Series Hood
DC37P	37 Contact Plug (Solder type)
DC37S	37 Contact Socket (Solder type)
DC37H	DC37 Series Hood
DD50P	50 Contact Plug (Solder type)
DD50S	50 Contact Socket (Solder type)
DD50H	DD50 Series Hood
22/44SE	22/44 Contacts — Solder Eyelets
57-30360 (Centronics)	36 Contact Plug (Solder)
57-60360 (Centronics)	36 Contact Socket (Solder)
57-30500	50-Pin Plug (Solder)
57-60500	50-Pin Socket (Solder)
UG88/U	BNC Plug (RG55,58 Cable)
UG89/U	BNC Jack (RG55,58 Cable)
UG175/U	UHF Reducing Adapter (RG55,58 Cable)
SO239	UHF Panel Receptacle
PL258	UHF Straight Adapter
PL259	UHF Plug (RG8, 11 Cable)
UG260/U	BNC Plug (RG59,71 Cable)
UG306/U	BNC Angle Adapter
UG1094/U	BNC Bulkhead Receptacle

HEAT SINKS

Part No.	Description
DUDE 4	Heat Sink for TO-3 Case
205CB	Heat Sink for TO-5 Case. . . . . (2 per pkg.)
291-36H	Heat Sink for TO-220 Case. . . . . (3 per pkg.)
671-3B	Low Profile Heat Sink for TO-3 Case
680-1.25	Heat Sink for TO-3 Case
690-T03	Heat Sink for TO-3 Case
6001-B	Heat Sink for TO-3 Case
6030-B	Heat Sink for TO-220 Case. . . . . (2 per pkg.)
6054-B	Heat Sink for TO-3 Case

FUSEHOLDER

Part No.	Description
HKP	3AG Fuseholder

TEST CLIPS

ALCP	15 inch Alligator Clip Test Leads. . . . . (10 per pkg.)
PC-14	14 Pin Proto Clip
PC-16	16 Pin Proto Clip
PC-24	24 Pin Proto Clip

JOYSTICKS

JS-100K	100K Linear Taper Pots (with Knob)
JS-150K	150K Linear Taper Pots (with Knob)
JVC-40	40K (2) Video Controller (with Knob)

TRANSFORMERS

AC250	250mA 12VAC (120V/60Hz)
AC500	500mA 12VAC (120V/60Hz)
DC900	500mA 9VDC (120V/60Hz)
DC6912	5 Way (±6,9,12VDC) Voltage Adapter
DC9200	200mA 9VDC (120V/60Hz)

BUZZERS/SPEAKERS

A0201	2¼ inch, 8 ohm, .25 Watt
MB-1 (MB-6)	6-9V Mini-Buzzer
SC628	6-28V Sonalert

FANS & GUARDS

MU2A1	Muffin Style Fan (4.68 inch square)
PWS2107	Sprite Style Fan (3.125 inch square)
MFG481	Muffin Fan Guard (4.68 inch square)
SFG648	Sprite Fan Guard (3.125 inch square)

TOOLS

NT-1	Nibbling Tool
PCB-3	P.C. Board Vise
WSU-30	30AWG Wire Wrap Tool
WS-150	5 inch Wire Stripper/Cutter (12-24AWG)

SOLDER

PC115	13 feet SN60 22AWG (.028 inch Dia.)
40-2	3½ feet (.05 width) Solder Wick

KEYBOARDS

K-19	19-Key Keyboard (Hexadecimal)
K-29	29-Key Calculator Keyboard
K-62	62-Key Keyboard (ASCII)

GRAB BAGS

GB100	Ceramic Disc Capacitors. . . . . (100 pcs.)
GB101	Mylar Capacitors. . . . . (60 pcs)
GB102	Electrolytic Capacitors. . . . . (60 pcs.)
GB103	Tantalum Capacitors. . . . . (40 pcs.)
GB107	Silicon Diodes (1N914/1N4148). . . . . (100 pcs.)
GB108	TTL Series Integrated Circuits. . . . . (50 pcs.)
GB109	Linear Integrated Circuits. . . . . (30 pcs.)
GB110	Assorted LEDs. . . . . (100 pcs.)
GB113	Miniature Trimmer Pots. . . . . (30 pcs.)
GB116	¼ Watt Resistor Assortment. . . . . (200 pcs.)
GB117	½ Watt Resistor Assortment. . . . . (200 pcs.)
GB120	Miniature Slide Switches. . . . . (25 pcs.)
GB123	Heat Sink Assortment. . . . . (30 pcs.)
GB127	Transistors Plastic/Power. . . . . (100 pcs.)
GB137	Chokes, Coils and Inductors. . . . . (50 pcs.)
GB139	3-8 Terminal Solder/Screw Type. . . . . (40 pcs.)
GB140	Spacers, Standoffs, Insulators. . . . . (150 pcs.)
GB141	Washers and Spacers. . . . . (200 pcs.)
GB145	Lugs, Crimp On. . . . . (100 pcs.)
GB154	1 & 2 Watt Resistor Assortment. . . . . (100 pcs.)
GB162	7-Segment Displays. . . . . (50 pcs.)
GB165	Toggle, Rocker, Push Button Switches. . . . . (40 pcs.)
GB174	¼ Watt Single-Turn Thumbwheel Pots. . . . . (25 pcs.)
GB175	1 & 3 Amp Silicon Rectifiers (Diodes). . . . . (100 pcs.)
GB177	Shrink Tubing — Assorted 1 inch pieces. . . . . (200 pcs.)

KITS

JE200	5V 1 Amp Regulated Power Supply Kit
JE205	Multi-Voltage Board Kit (Adapts to JE200)
JE210	5-15V — .5 to 1.5 Amp Regulated Power Supply Kit

KITS

Part No.	Description
JE212	Neg. 12VDC Adapter Board Kit (for JE610)
JE215	Adjustable Power Supply Kit (±5 to ±15VDC)
JE224K	Adj. Switching Power Supply Kit (4-24VDC to 5A)
JE300	Digital Thermometer Kit
JE305	Solar Cell Panel Kit
JE600	Hexadecimal Encoder Kit
JE610	ASCII Encoded Keyboard Kit
JE701	6-Digit (.300 inch) Clock Kit
JE730	4-Digit (.362 inch) Clock Kit
JE747	6-Digit (.800 inch) Clock Kit
JE750	4-Digit (.500 inch) Fluorescent Alarm Clock Kit
JE2206B	Function Generator Kit
ELK-1	Fiber Optics Educational Kit
MV915	Piper-Mouse Robot Kit
MV916	Peppy Robot Kit
MV918	Memocon Crawler Robot Kit
MV931	Mr. Bootsman Robot Kit
MV935	Circular Robot Kit
MV939	Medusa Robot Kit

DIP JUMPERS AND CABLE ASSEMBLIES

CEN36M-5	Centronics, Male-5 Foot-Single End (Cable Assembly)
CEN36M-5-F	Centronics, Male-5 Foot-Female (Cable Assembly)
CEN36M-5-M	Centronics, Male-5 Foot-Male (Cable Assembly)
DB25P-4-P	DB25P — 4 Foot — DB25P (Cable Assembly)
DB25P-4-S	DB25P — 4 Foot — DB25S (Cable Assembly)
DB25S-4-S	DB25S — 4 Foot — DB25S (Cable Assembly)
DB25P-10-P	DB25P — 10 Foot — DB25P (Cable Assembly)
DB25P-10-S	DB25P — 10 Foot — DB25S (Cable Assembly)
DJ-14-1	14-Pin 1-Foot Single-End (Dip Jumper)
DJ-16-1	16-Pin 1-Foot Single-End (Dip Jumper)
DJ-24-1	24-Pin 1-Foot Single-End (Dip Jumper)
DJ-40-1	40-Pin 1-Foot Single-End (Dip Jumper)
DJ-14-1-14	14-Pin 1-Foot Double-End (Dip Jumper)
DJ-16-1-16	16-Pin 1-Foot Double-End (Dip Jumper)
DJ-24-1-24	24-Pin 1-Foot Double-End (Dip Jumper)
DJ-40-1-40	40-Pin 1-Foot Double-End (Dip Jumper)
DJ-14-3-14	14-Pin 3-Foot Double-End (Dip Jumper)
DJ-16-3-16	16-Pin 3-Foot Double-End (Dip Jumper)
JRSMM	Gender Changer (Connects two DB25P) RS232
JRSFF	Gender Changer (Connects two DB25S) RS232
JCENFF	Gender Changer (Connects 2 Female Centronics Cables)
JCENMM	Gender Changer (Connects 2 Male Centronics Cables)

SURGE PROTECTOR & POWER CORDS

Model 100	6 Socket Surge Protector
17006	6 Foot 2-Conductor Power Cord
17239	8 Foot 3-Conductor Power Cord

BOOKS & MICRO CHARTS

ML-Z80	Z80 CPU Micro Chart
ML-6502	6502 (65XX) Micro Chart
ML-7400	5400/7400 TTL Micro Chart (Pin-Outs)
ML-8080A	8080A/8085A Micro Chart
ML-8086	8086/8088 Micro Charts
30001	National CMOS (CD4000/74C) Data Book
30003	National Linear Data Book
30005	National TTL Logic Data Book (2 Books)
30009	Intersil Data Book
30013	Zilog Microprocessor Data Book
30014	National Intuitive IC CMOS Evolution Data Book
30015	National Intuitive IC Op Amps Data Book
30016	National Voltage Regulator Hand Book
30017	National MOS Memory Data Book
30018	National CMOS (74HC, RAM, PROMs) Data Book
30019	National Interface Bipolar (LSI & Memory) Data Book
210830	Intel Memory Data Book
230843	Intel Microprocessor Data Book (2 Books)

MISCELLANEOUS

MKC-1	Memory Key Chain (Gold)
RE280	1.5 to 6.0VDC (7000rpm) Robotics Toy Motor
CAT-C	1985 Catalog for Direct Mailings. . . . . (100)
CAT-M	1985 Catalog for Direct Mailings. . . . . (1000)

7400's Pin-Outs 74LS00's

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
7400/74LS00	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7401	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC						
7402	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC						
7403	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7404	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7405	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7406	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7407	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7408	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7410	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC						
7411	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC						
7414	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7416	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7417	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC						
7420	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC						
7421	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC						
7425	1A	1B	1G	1C	1D	1Y	GND	2Y	2A	2B	2G	2C	2D	VCC						
7430	A	B	C	D	E	F	GND	Y	NC	NC	G	H	NC	VCC						
7432	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7437	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7438	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7440	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC						
7441	Q8	Q9	A	D	VCC	B	C	Q2	Q3	Q7	Q6	GND	Q4	Q5	Q1	Q0				
7442	Q0	Q1	Q2	Q3	Q4	Q5	Q6	GND	Q7	Q8	Q9	ID	IC	IB	IA	VCC				
7445	Q0	Q1	Q2	Q3	Q4	Q5	Q6	GND	Q7	Q8	Q9	ID	IC	IB	IA	VCC				
7447	IB	IC	LT	QRB	IRB	ID	IA	GND	Qe	Qd	Qc	Qb	Qa	Qg	Qf	VCC				
7448	IB	IC	LT	RBQ	RBI	ID	IA	GND	Qe	Qd	Qc	Qb	Qa	Qg	Qf	VCC				
7473	1CK	1CR	1K	VCC	2CK	2CR	2J	2Q	2Q	GND	1Q	1Q	1J							
7474	1CR	1D	1CK	1PR	1Q	1Q	GND	2Q	2Q	2PR	2CK	2D	2CR	VCC						
7475	1Q	1D	2D	E3-4	VCC	3D	4D	4Q	4Q	3D	GND	E1-2	2Q	2Q	1Q					
7476	1CK	1PR	1CR	1J	VCC	2CK	2PR	2CR	2J	2Q	2Q	2K	GND	1Q	1Q	1K				
7483	A4	SM3	A3	B3	VCC	SM2	B2	A2	SM1	A1	B1	GND	C0	C4	SM4	B4				
7485	IB3	IA>B	IA=B	IA<B	QA>B	QA=B	QA<B	GND	IB0	IA0	IB1	IA1	IA2	IB2	IA3	VCC				
7486	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
7489	ADA	ME	WE	DI1	DO1	DI2	DO2	GND	DO3	DI3	DO4	DI4	ADD	ADC	ADB	VCC				
7490	IB0	R0(1)	R0(2)	NC	VCC	R9(1)	R9(2)	QC	QB	GND	QD	QA	NC	IA						
7492	IB	NC	NC	NC	VCC	R0(1)	R0(2)	QD	QC	GND	QB	QA	NC	IA						
7493	IB	R0(1)	R0(2)	NC	VCC	NC	NC	QC	QB	GND	QD	QA	NC	IA						
7495	SI	IA	IB	IC	ID	MC	GND	L	R	QD	QC	QB	QA	VCC						
7496	CK	PR-A	PR-B	PR-C	VCC	PR-D	PR-E	PR-E	SI	QE	QD	GND	QC	QB	QA	CR				
74100	NC	1D1	1D2	1Q2	1Q1	NC	GND	2Q1	2Q2	2D2	2D1	E-2G	NC	NC	2D3	2D4	2Q4	2Q3	1Q3	1Q4
	1D4	1D3	E-1G	VCC																
74107	1J	1Q	1Q	1K	2Q	2Q	GND	2J	2CK	2CR	2K	1CK	1CR	VCC						
74109	1CR	1J	1K	1CK	1PR	1Q	1Q	GND	2Q	2Q	2PR	2CK	2K	2J	2CR	VCC				
74112	1CK	1K	1J	1PR	1Q	1Q	2Q	GND	2Q	2PR	2J	2K	2CK	2CR	1CR	VCC				
74121	Q	NC	A1	A2	B	Q	GND	NC	RIN	CAP	REX	NC	NC	VCC						
74122	A1	A2	B1	B2	CR	Q	GND	Q	RIN	NC	CAP	NC	REX	VCC						
74123	1A	1B	1CR	1Q	2Q	2CAP	2REX	GND	2A	2B	2CR	2Q	1Q	1CAP	1REX	VCC				
74125	1C	1A	1Y	2C	2A	2Y	GND	3Y	3A	3C	4Y	4A	4C	VCC						
74126	1C	1A	1Y	2C	2A	2Y	GND	3Y	3A	3C	4Y	4A	4C	VCC						
74132	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
74136	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
74138	SEL1	SEL2	SEL3	E-G2A	E-G2B	EG1	QY7	GND	QY6	QY5	QY4	QY3	QY2	QY1	QY0	VCC				
74139	E1G	SEL1	A SEL1	B Q1Y0	Q1Y1	Q1Y2	Q1Y3	GND	Q2Y3	Q2Y2	Q2Y1	Q2Y0	SEL2	B SEL2	A E2G	VCC				
74141	Q8	Q9	IA	ID	VCC	IB	IC	Q2	Q3	Q7	Q6	GND	Q4	Q5	Q1	Q0				
74145	Q0	Q1	Q2	Q3	Q4	Q5	Q6	GND	Q7	Q8	Q9	ID	IC	IB	IA	VCC				
74150	IE7	IE6	IE5	IE4	IE3	IE2	IE1	IE0	S	WQ	DSEL	GND	CSEL	BSEL	ASEL	IE15	IE14	IE13	IE12	IE11
	IE10	IE9	IE8	VCC																
74151	I3	I2	I1	I0	QY	QW	S	GND	CSEL	BSEL	ASEL	I7	I6	I5	I4	VCC				
74153	S1G	BSEL	1C3	1C2	1C1	1C0	01Y	GND	02Y	2C0	2C1	2C2	2C3	ASEL	S2G	VCC				
74154	Q0	Q1	Q3	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	GND	Q11	Q12	Q13	Q14	Q15	IG1	IG2	ID
	IC	IB	IA	VCC																
74157	SEL	I1A	I1B	Q1Y	I2A	I2B	Q2Y	GND	Q3Y	I3B	I3A	Q4Y	I4B	I4A	S	VCC				
74161	CR	CK	IA	IB	IC	ID	ENP	GND	LD	EN-T	QD	QC	QB	QA	RCO	VCC				
74163	CR	CK	IA	IB	IC	ID	ENP	GND	LD	EN-T	QD	QC	QB	QA	RCO	VCC				
74164	SIA	SIB	QA	QB	QC	QD	GND	CK	CR	QE	QF	QG	QH	VCC						
74165	LS	CK	PIE	PIF	PIG	PIH	QH	GND	QH	SI	PIA	PIB	PIC	PID	CKI	VCC				
74166	SI	PIA	PIB	PIC	PID	CKI	CK	GND	CR	PIE	PIF	PIG	QH	PIH	LS	VCC				
74174	CR	1Q	1D	2D	2Q	3D	3Q	GND	CK	4Q	4D	5Q	5D	6D	6Q	VCC				
74175	CR	1Q	1Q	1D	2D	2Q	2Q	GND	CK	3Q	3Q	3D	4D	4Q	4Q	VCC				
74176	LC	QC	IC	IA	QA	CK2	GND	CK1	QB	IB	ID	QD	CR	VCC						
74177	LC	QC	IC	IA	QA	CK2	GND	CK1	QB	IB	ID	QD	CR	VCC						
74179	CR	IB	IA	SI	QA	CK	QB	GND	QC	LD	QD	QD	SHF	ID	IC	VCC				
74181	IB0	IA0	IS3	IS2	IS1	IS0	ICN	IM	QF0	QF1	QF2	GND	QF3	QA=B	QP	QCN4	QG	IB3	IA3	IB2
	IA2	IB1	IA1	VCC																
74191	IB	QB	QA	EIG	IUD	QC	QD	GND	ID	IC	ILD	QMM	QRC	ICK	IA	VCC				
74192	IB	QB	QA	ICD	ICU	QC	QD	GND	ID	IC	ILD	QCY	QBW	ICR	IA	VCC				
74193	IB	QB	QA	ICD	ICU	QC	QD	GND	ID	IC	ILD	QCY	QBW	ICR	IA	VCC				
74196	LC	QC	IC	IA	QA	CK2	GND	CK1	QB	IB	ID	QD	CR	VCC						
74197	LC	QC	IC	IA	QA	CK2	GND	CK1	QB	IB	ID	QD	CR	VCC						
74221	1A	1B	1CR	1Q	2Q	2CAP	2REX	GND	2A	2B	2CR	2Q	1Q	1CAP	1REX	VCC				
74240	1G	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G	VCC
74241	1G	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G	VCC
74242	GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	NC	GBA	VCC						
74243	GAB	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	NC	GBA	VCC						
74244	1G	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G	VCC
74245	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	EG	VCC
74257	SEL	I1A	I1B	Q1Y	I2A	I2B	Q2Y	GND	Q3Y	I3B	I3A	Q4Y	I4B	I4A	G	VCC				
74258	SEL	I1A	I1B	Q1Y	I2A	I2B	Q2Y	GND	Q3Y	I3B	I3A	Q4Y	I4B	I4A	G	VCC				
74273	CR	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
74279	1R	1S1	1S2	1Q	2R	2S	2Q	GND	3Q	3R	3S1	3S2	4Q	4R	4S	VCC				

7400's Pin-Outs 74LS00's

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
74365/74LS365	G1	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2	VCC				
74366	G1	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2	VCC				
74367	G1	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2	VCC				
74368	G1	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2	VCC				
74373	QC	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	EG	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
74374	QC	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
74390	1A	1CR	1QA	1B	1QB	1QC	1QD	GND	2QD	2QC	2QB	2QA	2CR	2A	VCC					
74393	1A	1CR	1QA	1QB	1QC	1QD	GND	2QD	2QC	2QB	2QA	2CR	2A	VCC						
74399	WS	QA	A1	A2	B2	B1	QB	GND	CK	QC	C1	C2	D2	D1	QD	VCC				
74640	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	ENG	VCC
74641	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	ENG	VCC
74645	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	ENG	VCC
74670	D2	D3	D4	RB	RA	Q4	Q3	GND	Q2	Q1	ERD	EWT	WB	WA	D1	VCC				
81LS95(74LS465)	G1	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2	VCC
81LS97(74LS467)	1G	1A1	1Y1	1A2	1Y2	1A3	1Y3	1A4	1Y4	GND	2Y1	2A1	2Y2	2A2	2Y3	2A3	2Y4	2A4	2G	VCC

CD4000's Pin-Outs CD4500's

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD4001	A	B	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4002	J	A	B	C	D	NC	VSS	NC	E	F	G	H	K	VDD						
CD4006	D1	NC	CK	D2	D3	D4	VSS	D4+4	D4+5	D3+4	D2+4	D2+5	D1+4	VDD						
CD4009	VCC	G=A	A	H=B	B	I=C	C	VSS	D	J=D	E	K=E	NC	F	L=F	VDD				
CD4010	VCC	G=A	A	H=B	B	I=C	C	VSS	D	J=D	E	K=E	NC	F	L=F	VDD				
CD4011	A	B	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4013	Q1	Q1	CK1	RE1	D1	ST1	VSS	ST2	D2	RE2	CK2	Q2	Q2	VDD						
CD4016	I/Q	Q/I	O/I	I/Q	CB	CC	VSS	I/Q	O/I	Q/I	I/Q	CD	CA	VDD						
CD4017	Q5	Q1	Q0	Q2	Q6	Q7	Q3	VSS	Q8	Q4	Q9	C/Q	CLJ	CK	RE	VDD				
CD4018	DA	I1	I2	Q2	Q1	Q3	I3	VSS	I4	PR-EN	Q4	I5	Q5	CK	RE	VDD				
CD4020	Q12	Q13	Q14	Q6	Q5	Q7	Q4	VSS	Q1	IPU	RE	Q9	Q8	Q10	Q11	VDD				
CD4023	A	B	D	E	F	K	VSS	C	J	L	I	H	G	VDD						
CD4024	IPU	RE	Q7	Q6	Q5	Q4	VSS	NC	Q3	NC	Q2	Q1	NC	VDD						
CD4027	Q2	Q2	CK2	RE2	K2	J2	ST2	VSS	ST1	J1	K1	RE1	CK1	Q1	Q1	VDD				
CD4028	Q4	Q2	Q0	Q7	Q9	Q5	Q6	VSS	Q8	IA	ID	IC	IB	Q1	Q3	VDD				
CD4029	PR-EN	Q4	I4	I1	CI CK	Q1	C0	VSS	BD	UD	Q2	I2	I3	Q3	CK	VDD				
CD4030	B	A	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4040	Q12	Q6	Q5	Q7	Q4	Q3	Q2	VSS	Q1	Ø	R	Q9	Q8	Q10	Q11	VDD				
CD4044	Q4	NC	S1	R1	EN	R2	S2	VSS	Q2	Q3	S3	R3	Q1	R4	S4	VDD				
CD4046	PP	PCIO	CI	VCOO	INH	C1	C1	VSS	VCOI	DEMO	R1	R2	PC2O	SIGI	ZEN	VDD				
CD4047	C	R	RCC	AST	ASТ	–TR	VSS	+TR	EXTR	Q	Q	RTR	OSCO	VDD						
CD4049	VCC	G=A	A	H=B	B	I=C	C	VSS	D	J=D	E	K=E	NC	F	L=F	NC				
CD4050	VCC	G=A	A	H=B	B	I=C	C	VSS	D	J=D	E	K=E	NC	F	L=F	NC				
CD4051	I/Q4	I/Q6	CMOI	I/Q7	I/Q5	INH	VEE	VSS	C	B	A	I/Q3	I/Q0	I/Q1	I/Q2	VDD				
CD4060	Q12	Q13	Q14	Q6	Q5	Q7	Q4	VSS	Ø0	Ø0	Ø1	R	Q9	Q8	Q10	VDD				
CD4066	I/QA	Q/IA	Q/IB	I/QB	CONB	CONC	VSS	I/QC	Q/IC	Q/ID	I/QD	COND	CONA	VDD						
CD4069	A	G=A	B	H=B	C	I=C	VSS	J=D	D	K=E	E	L=F	F	VDD						
CD4070	A	B	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4071	B	A	J	K	D	C	VSS	F	E	L	M	H	G	VDD						
CD4072	J	A	B	C	D	NC	VSS	NC	E	F	G	H	K	VDD						
CD4081	A	B	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4082	J	D	C	B	A	NC	VSS	NC	E	F	G	H	K	VDD						
CD4093	A	B	J	K	C	D	VSS	E	F	L	M	G	H	VDD						
CD4511	IB	IC	LT	BL	LES	ID	IA	VSS	Qe	Qd	Qc	Qb	Qa	Qg	Qf	VDD				
CD4528	T1	T2	CD	A	B	Q	Q	VSS	Q	Q	B	A	CD	T1	T2	VDD				
CD4538	CX1	RXCX	RE	+TR	–TR	Q1	Q1	VSS	Q2	Q2	–TR	+TR	RE	RXCX	CX2	VDD				
CD4543	LD	C	B	D	A	PH	B1	VSS	A	b	c	d	e	g	f	VDD				

Linear Pin-Outs Linear

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
TL074CN	Q	IN/I	NONI	VCC+	NONI	IN/I	Q	Q	IN/I	NONI	VCC–	NONI	IN/I	Q						
TL084CN	Q	IN/I	NONI	VCC+	NONI	IN/I	Q	Q	IN/I	NONI	VCC	NONI	IN/I	Q						
LM301V	BC	I	I	V–	BAL	Q	V+	COM												
LM305H	CL	BOQ	UI	GND	RB	FB	CS	RQ												
LM307V	NC	I–	I+	V–	NC	Q	V+	NC												
LM308CN	COMP	I–	I+	V–	NC	Q	V+	COM2												
LM309KC	I	Q	GND																	
LM310CN	BAL1	NC2	I3	V–4	5BO	6Q	7V+	8BAL												
LM311V	GND	I+	I–	V	BAL	BALS	Q	V+												
LM317T	ADJ	Vin	Vout																	
LM318CN	BC-1	I–	I+	V	BC-3	Q	V+	COM-2												
LM319N	NC	NC	1GND	+I1	–I1	V–	Q2	2GND	I+2	I–2	V–	Q1								
LM320K-5	GND	Q	I	(INPUT CASE)																
LM320K-12	GND	Q	I	(INPUT CASE)																
LM320T-5	GND	Q	I																	
LM320T-12	GND	Q	I																	
LM320T-15	GND	Q	I																	
LM323K	I	Q	(GND - CASE)																	
LM324N	Q1	I–1	I+1	V+	I+2	I–2	Q2	Q3	I–3	I+3	GND	I+4	I–4	Q4						
LM334Z	R	V+	V–																	
LM335Z	V+	ADJ	V–																	
LM336Z	ADJ	V+	V–																	
LM337T	ADJ	Vout	Vin																	
LM338K	ADJ	Vin	(Output-Case)																	
LM339N	Q2	Q1	V+	I1–	I1+	I2–	I2+	I3–	I3+	I4–	I4+	GND	Q4	Q3						
LM340K-5	I	Q	(GND - CASE)																	
LM340K-12	I	Q	(GND - CASE)																	
LM340T-5	I	Q	GND																	
LM340T-12	I	Q	GND																	
LM340T-15	I	Q	GND																	
LF353N	QA	INIA	NotA	V–	NotB	INIB	QB	V+												

Linear Pin-Outs Linear

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LF356N	BAL	I	I	V–	BAL	Q	V+	NC												
LM380N	BP	Noi	GND	GND	GND	INi	GND	Vout	NC	GND	GND	GND	NC	VS						
LM384N	BP	Noi	GND	GND	GND	INi	GND	Vout	NC	GND	GND	GND	NC	VS						
LM3886N-3	Gain	–I	+I	GND	Vout	VS	BP	Gain												
LM387N	+IN1	–1N	GND	Q(1)	Q(2)	VCC	–IN2	+IN2												
LM555V	GND	TR	Q	RE	CV	THR	DIS	+VCC												
XRL555V	GND	TR	Q	RE	CV	THR	DIS	+VCC												
LM556N	DIS	THR	CV	RE	Q	TR	GND	TR	Q	RE	CV	THR	DIS	VCC						
NE558N	QA	TA	TRA	CV	VCC	TRB	TB	QB	QC	TC	TRC	GND	RE	TRD	TD	QD				
NE564N	V+	LGC	IPC	LP	LP	FM/ RFQ	BF	GND	Q VCO	V+	Q VCO	FSC	FSC	AQ	HS	TTLQ				
LM565N	–VCC	I	I	VCOQ	PCI	RQ	VCO	TIR	TC	+VCC	NC	NC	NC	NC						
LM566CN	GND	NC	QSW	QTW	MOI	TR	TC	VCC												
LM567V	QF	LF	I	V+	TR	TC	GND	Q												
LM723N	NC	CL	CS	INI	NON I	VREF	V	NC	VZ	Vout	VI	V+	FC	NC						
LM739N	QA	QLA	ILA	ILA	+NA	–IA	V–	–IB	+IB	ILB	ILB	QLB	QB	V+						
LM741V	ON	INI	NON I	V–	ON	Q	V+	NC												
LM747N	INIA	NON I	ON A	V–	ON B	NON I	INIB	ON B	V+B	QB	NC	QA	V+A	ON A						
LM1458V	QA	INIA	NON I	V–	NON I	IIB	QB	V+												
LM1488N (75188)	V–	IA	QA	IB	IB	QB	GND	QC	IC	IC	QD	ID	ID	V+						
LM1489N (75189)	IA	RCA	QA	IB	RCB	QB	GND	QC	RCC	IC	QD	RCD	ID	VCC						
LM1556V(MC1456)	ON	INI	NON I	VEE	ON	Q	VCC	NC												
LM1871N	CH3	CH2	CH1	4.5V	CLA	CLB	FT	PT	GND	BIAS	RFQ	MF	MO	VCC	RM	CH6	CH5	CH4		
LM1872N	LO	XTAL	GND	VBIA	MI	V+	CHA	CHA	CHB	CHB	CH1	CH2	SYNC	GND	IFQ	AGC	IFI	MIXQ		
LM2002T	NON I	INI	GND	Q	SV															
XR2206N	AMI	Q	MO	V+	TC	TC	TR	TR	FSKI	BP	GSYN	GND	WAOJ	WAOJ	SYM	SYM				
CA3080E	NC	INI	NON I	V–	ABI	Q	V+	NC												
CA3130E	ON	INI	NON I	V–	ON	Q	V+	STB												
CA3140E	ON	INI	NON I	V–	ON	Q	V+	STB												
CA3146E	CQ1	BQ1	OQ1,2	BQ2	CQ2	BQ3	OQ3	CQ3	BQ4	OQ4	CQ4	BQ5	OQ5	CQ5						
CA3161E	I2 1	I2 2	NC	NC	NC	I2 3	I2 0	GND	Qe	Qd	Qc	Qb	Qa	Qg	Qf	V+				
CA3162E	Q2 1	Q2 0	QNSD	QMSD	QLSD	H/BP	GND	ZADJ	ZADJ	LI	HI	IC	GADJ	V+	Q2 2	Q2 3				
MC3470P	Ai	Ai	OD	OD	GND	OC	OC	OC	OC	DQ	VCC1	DIC	DIC	ADI	ADI	AMQ	AMQ	VCC2		
LM3900N(CA3401)	I+1	I+2	I–2	Q2	Q1	I–1	GND	I–3	Q3	Q4	I–4	I+4	I+3	V+						
LM3905N	TR	VREF	R/C	GND	V+	C	EMI	LDG												
LM3909N	3KF	Q	NC	V–	V+	RL	NC	9KS												
LM3914N	LE1	V–	V+	DLE	SIG	DHE	REQ	REA	MS	LE10	LE9	LE8	LE7	LE6	LE5	LE4	LE3	LE2		
LM3915N	LE1	V–	V+	DLE	SIG	DHE	REQ	REA	MS	LE10	LE9	LE8	LE7	LE6	LE5	LE4	LE3	LE2		
LM4136N	–IA	+IA	QA	QB	+IB	–IB	–VEE	–IC	+IC	QC	+VCC	QD	+ID	–ID						
NE5532N	QA	INIA	NON I	V–	NON I	INIB	QB	V+												
NE5534N	BAL	INI	NON I	V–	COM	Q	V+	BC												
7107CPL	V+	D1	C1	B1	A1	F1	G1	E1	D2	C2	B2	A2	F2	E2	D3	B3	F3	E3	AB4	POL
	GND	G3	A3	C3	G2	V–	INT	BUF	A/Z	INLO	INHI	COM	C–RE	C+RE	RELO	REHI	TEST	OSC3	OSC2	OSC1
76477	SEL1	GND	ENCK	NCKR	NFR	NFC	DCR	ADTC	SI	ACR	ACR	FER	AQ	VCC	VREG	EVCO	VCOC	VCOR	PC	SLFR
	SLFC	VCOS	OC	OR	MSB	MSA	MSC	ES2												
ADC0804LCN	CS	RD	WR	CLKI	INTR	Vin+	Vin–	AGND	VREF2	DGND	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0	CLKR	VCC
DAC0806LCN	NC	GND	VEE	IO	MA1	A2	A3	A4	A5	A6	A7	A8	VCC	VRE+	VRE–	COM				
DAC0808LCN	NC	GND	VEE	IO	MA1	A2	A3	A4	A5	A6	A7	A8	VCC	VRE+	VRE–	COM				
ADC0809CCN	IN3	IN4	IN5	IN6	IN7	STA	EOC	2-5	QEN	CK	VCC	REF+	GND	2-7	2-6	–REF	2-8	2-4	2-3	2-2
	2-1	ALE	ADDC	ADDB	ADDA	IN0	IN1	IN2												
ADC0817CCN	IN3	IN4	IN5	IN6	IN7	IN8	IN9	IN10	IN11	IN12	IN13	IN14	EOC	IN15	MUXQ	STA	VCC	COMI	REF+	GND
	QEN	CK	-REF	2-8	2-7	2-6	2-5	2-4	2-3	2-2	2-1	ALE	ADDD	ADDC	ADDB	ADDA	EC	IN0	IN1	IN2

Microprocessor Pin-Outs Microprocessor

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Z80, A, B	A11	A12	A13	A14	A15	CLK	D4	D3	D5	D6	+5V	D2	D7	D0	D1	INT	NMI	HALT	MREQ	IORQ
	RD	WR	BUSK	WAIT	BUSQ	RES	M1	REF	GND	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
Z80A-CTC	D4	D5	D6	D7	GND	RD	ZTO0	ZTO1	ZTO2	IORQ	IEO	INT	IEI	M1	CLK	CE	RES	CS0	CS1	CKT3
	CKT2	CKT1	CKT0	+5V	D0	D1	D2	D3												
Z80A-P10	D2	D7	D6	CE	C/D	B/A	A7	A6	A5	A4	GND	A3	A2	A1	A0	ASTB	BSTD	ARDY	D0	D1
	BRDY	IEO	INT	IEI	CLK	+5V	B0	B1	B2	B3	B4	B5	B6	B7	RD	CIOR	M1	D5	D4	D3
HD-0165-5	VCC	Q3	Q4	STB	I16	I15	I14	I13	I12	I11	I10	I9	I8	I7	I6	I5	I4	I3	I2	I1
	Q2	Q1	GND	KRO																
UPD416N (4116)	VBB	DIN	WR	RAS	A0	A2	A1	VDD	VCC	A5	A4	A3	A6	DQ	CAS	VSS				
2101	A3	A2	A1	A0	A5	A6	A7	GND	DI1	DO1	DI2	DO2	DI3	DO3	DI4	DO4	CE2	QD	CE1	R/W
	A4	VCC																		
2102	A6	A5	R/W	A1	A2	A3	A4	A0	GND	VCC	DI	DQ	CE	A9	A8	A7				
2114	A6	A5	A4	A3	A0	A1	A2	CS	GND	WE	I/O4	I/O3	I/O2	I/O1	A9	A8	A7	VCC		
2708	A7	A6	A5	A4	A3	A2	A1	A0	O0	O1	O2	VSS	O3	O4	O5	O6	O7	PGM	VDD	CS/W
	VBB	A9	A8	VCC																
2716 (TMS2516)	A7	A6	A5	A4	A3	A2	A1	A0	O0	O1	O2	GND	O3	O4	O5	O6	O7	CE	A10	OE
	VPP	A9	A8	VCC																
2732, A	A7	A6	A5	A4	A3	A2	A1	A0	O0	O1	O2	GND	O3	O4	O5	O6	O7	CE	A10	OE
	A11	A9	A8	VCC																
2764	VPP	A12	A7	A6	A5	A4	A3	A2	A1	A0	O0	O1	O2	GND	O3	O4	O5	O6	O7	CE
	A10	OE	A11	A9	A8	NC(1)	PGM	VCC												
4164	NC	DIN	WE	RAS	A0	A2	A1	VCC	A7	A5	A4	A3	A6	DQ	CAS	VSS				
MM5314N	QEN	VDD	Qa	Qb	Qc	Qd	Qe	Qf	Qg	12/24	50/60	VSS	H/D	SS	FS	I50/60	QS10	QS1	QH10	QH1
	QM10	QM1	MUXT	4/6																
6116P, LP	A7	A6	A5	A4	A3	A2	A1	A0	I/01	I/02	I/03	GND	I/04	I/05	I/06	I/07	I/08	CS	A10	OE
	WE	A9	A8	VCC																
6264P-15	N/C	A12	A7	A6	A5	A4	A3	A2	A1	A0	I/01	I/02	I/03	GND	I/04	I/05	I/06	I/07	I/08	CST
	A10	OE	A11	A9	A8	CS2	WE	VCC												
6502A, B	VSS	RDY	Ø1O	IRQ	NC	NMI	SYNC	VCC	AB0	AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11
	VSS	AB12	AB13	AB14	AB15	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0	R/W	NC	NC	Ø0I	SO	Ø2O	RES
6522	VSS	PA0	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PB0	PB1	PB2	PB3	PB4	PB5	PB6	PB7	CB1	CB2	VCC
	IRQ	R/W	CS2	CS1	Ø2	D7	D6	D5	D4	D3	D2	D1	D0	RES	RS3	RS2	RS1	RS0	CA2	CA1

Electronic components

Microprocessor Pin-Outs

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
6800	GND	HALT	Ø1	IRQ	VMA	NMI	BA	VCC	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11
	GND	A12	A13	A14	A15	D7	D6	D5	D4	D3	D2	D1	D0	R/W	NC	DBE	Ø2	NC	TSC	RES
6810	GND	D0	D1	D2	D3	D4	D5	D6	D7	E0	E1	E2	E3	E4	E5	R/W	A6	A5	A4	A3
	A2	A1	A0	VCC																
6821 (6820)	VSS	PA0	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PB0	PB1	PB2	PB3	PB4	PB5	PB6	PB7	CB1	CB2	VCC
	R/BW	CS0	CS2	CS1	E	D7	D6	D5	D4	D3	D2	D1	D0	RES	RS1	RS0	IRQB	IRQA	CA2	CA1
6845	GND	RES	LPEN	CC0	CC1	CC2	CC3	CC4	CC5	CC6	CC7	CR0	CR1	CR2	CR3	CR4	CR5	DE	CUR	VCC
	CLK	R/W	Ø2	RS	CS	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0	RA4	RA3	RA2	RA1	RA0	HSY	VSY
8080A	A10	GND	D4	D5	D6	D7	D3	D2	D1	D0	−5V	RES	HOLD	INT	Ø2	INTE	DBIN	WR	SYNC	+5V
	HLDA	Ø1	RDY	WAIT	A0	A1	A2	+12V	A3	A4	A5	A6	A7	A8	A9	A15	A12	A13	A14	A11
8085	X1	X2	RESQ	SOD	SID	TRAP	R7.5	R6.5	R5.5	INTR	INTA	ADO	AD1	AD2	AD3	AD4	AD5	AD6	AD7	VSS
	A8	A9	A10	A11	A12	A13	A14	A15	S0	ALE	WR	RD	S1	IO/M	RDY	REI	CKQ	HLDA	HOLD	VCC
8086	GND	AD14	AD13	AD12	AD11	AD10	AD9	AD8	AD7	AD6	AD5	AD4	AD3	AD2	AD1	AD0	NMI	INTR	CLK	GND
	RES	RDY	TEST	QS1	QS0	S0	S1	S2	LOCK	HLDA	HOLD	RD	MN MX	BHE/ S7	A19 S6	A18 S5	A17 S4	A16 S3	AD15	VCC
8088	GND	A14	A13	A12	A11	A10	A9	A8	AD7	AD6	AD5	AD4	AD3	AD2	AD1	AD0	NMI	INTR	CLK	GND
	RES	RDY	TEST	INTA	ALE	DEN	DT/R	IO/M	WR	HLDA	HOLD	RD	MN MX	SSO	A19 S6	A18 S5	A17 S4	A16 S3	A15	VCC
8212	DS1	MD	DI1	DO1	DI2	DO2	DI3	DO3	DI4	DO4	STB	GND	DS2	CLR	DO5	DI5	DO6	DI6	DO7	DI7
	DO8	DI8	INT	VCC																
8216	CS	DO0	DB0	DI0	DO1	DB1	DI1	GND	DI2	DB2	DO2	DI3	DB3	DO3	DIEN	VCC				
8224	RES	REN	RDIN	REDY	SYNC	Ø2	STSB	GND	VDD	Ø2	Ø1	OSC	TANK	XTL2	XTL1	VCC				
8228	STSB	HLDA	WR	DBIN	DB4	D4	DB7	D7	DB3	D3	DB2	D2	DB0	GND	D0	DB1	D1	DB5	D5	DB6
	D6	BUS	INTA	MEMR	I/OR	MEMW	I/OW	VCC												
8251	D2	D3	RXD	GND	D4	D5	D6	D7	TXC	WR	CS	C/D	RD	RXR	TXR	SYN	CTS	TXE	TXD	CLK
	RES	DSR	RTS	DTR	RXC	VCC	D0	D1												
8253	D7	D6	D5	D4	D3	D2	D1	D0	CK0	Q0	G0	GND	Q1	G1	CK1	G2	Q2	CK2	A0	A1
	CS	RD	WR	VCC																
8255	PA3	PA2	PA1	PA0	RD	CS	GND	A1	A0	PC7	PC6	PC5	PC4	PC0	PC1	PC2	PC3	PB0	PB1	PB2
	PB3	PB4	PB5	PB6	PB7	VCC	D7	D6	D5	D4	D3	D2	D1	D0	RES	WR	PA7	PA6	PA5	PA4
8257	I/OR	I/OW	MEMR	MEMW	MARK	Ready	HLDA	ADS	AEN	HRQ	CS	CLK	RES	DAC2	DAC3	DRQ3	DRQ2	DRQ1	DRQ0	GND
	D7	D6	D5	DAC1	DAC0	D4	D3	D2	D1	D0	VCC	A0	A1	A2	A3	TC	A4	A5	A6	A7
AY5-1013	VCC	VGG	GND	RDE	RDB	RD7	RD6	RD5	RD4	RD3	RD2	RD1	PE	FE	OR	SWE	RCP	RDAV	DAV	SI
	XR	TBMT	DS	EOC	SO	DB1	DB2	DB3	DB4	DB5	DB6	DB7	DBB	CS	NP	TSB	NB2	NB1	EPS	TCP
AY5-2376	VCC Y10	FC8 Y9	FCC Y8	SI Y7	CI Y6	PII Y5	PO Y4	DQB8 Y3	DQB7 Y2	DQB6 Y1	DQB5 Y0	DQB4 X7	DQB3 X6	DQB2 X5	DQB1 X4	SQ X3	VGI X2	VGG X1	SCI X0	DSI FCA
27128	VPP	A12	A7	A6	A5	A4	A3	A2	A1	A0	O0	O1	O2	GND	O3	O4	O5	O6	O7	CE
	A10	OE	A11	A9	A8	A13	PGM	VCC												
MM58167	CS	RD	WR	RDY	A0	A1	A2	A3	A4	OSCI	OSCO	VSS	INTQ	SIO	D0	D1	D2	D3	D4	D5
	D6	D7	PD	VDD																

RAMS & EPROMS CROSS-REFERENCE GUIDE

National Semiconductor	Access Time NS	Pins	Org.	AMD	FSC	FUJ	HIT	INT	MOT	NEC	TI
MM2101A-4	450	22	256x4	2101-2	3538-1	MB8101		P2101A-4		8101	
MM2102AN-4	450	16	1024x1	9102BPC	2102IPC			P2102A-4		UPD2102	TMS4033
MM2102AN-4L	450	16	1024x1	91L02BPC	2102LIPC			P2102AL-4			
MM2114N	450	18	1024x4	9114BPC	2114		HM472114A-4	P2114	MCM2114P45	UPD2114	TMS4045-45
HM6116LP-3	150	24	2048x8			MB8416A-15L			MCM61L16-15		
HM6116P-4	200	24	2048x8		F3528	MB8416			MCM6116-20	UPD446	TMS4016
DM7489N	60	16	16x4	3101	7489		HD7489	P3101	M4064	UPB2089	7489
MM5290N-4	250	16	16,384x1	9016DPC	F16K-4PC	MB8116N	HM4716A-4	P2117-4	M4116P-25	UPD41BC-1	TMS4116N-25
NMC4164N-20	200	16	65,536x1		F64K-20	MB8264-20N	HM4864-3	P2164A-20	MCM6665-20	UPD4164-2	TMS4164-20
MM2708Q	450	24	1024x8	AM2708	F2708	MB8518H	HN462708	D2708	2708	UPD2708	TMS2708-45
MM2716Q	450	24	2048x8	AM2716	F2716	MBM2715	HN462716	D2716	MCM2716	UPD2716	TMS2516
NMC2732Q	450	24	4096x8	AM2732		MB8532	HN462732	D2732		UPD2732	
2732A-4	450	24	4096x8					2732A-4			
2764-4	450	28	8192x8	AM2764-4				2764-4			TMS2564
27128-25	250	28	16,384x8	AM27128-4		MBM27128	HN4827128G-25	27128			TMS27128-25

Opto-Isolators Pin-Outs

PINS ⇨	1	2	3	4	5	6	7	8	9	10	11
4N33	AN	CAT	NC	EM	COLL	BASE					
DL704 (MAN 74)	AF	AG	NC	CC	NC	AE	AD	AC	DPA	NC	NC
DL707 (MAN 72)	CA	CF	AEFG	NC	NC	Cdp	CE	CD	ACD	CC	CG
DL3401 (DL747)	NP	Ca	CI	A(3)	Ce	A(3)	NC	NP	NP	Cdp	Cd
DL3403 (DL750)	NP	Aa	AI	C(6)	Ae	C(6)	NC	NP	NP	Adp	Ad
NSS881	AA	NC	AD	CC1	NC	NC	CC2	AC	NC	CC3	AB
NSS882	CA	NC	CD	CA1	NC	NC	CA2	CC	NC	CA3	CB

Displays/LEDs

PINS ⇨	12	13	14	15	16	17	18	19	20
4N33									
DL704 (MAN 74)	NC	CC	AB	AA					
DL707 (MAN 72)	CF	AEFG	NC	NC	Cdp	CE	CD	ACD	CC
DL3401 (DL747)	NP	Cc	Cg	Cb	NP	A(3)	NP		
DL3403 (DL750)	NP	Ac	Ag	Ab	NP	C(6)	NP		
NSS881	AF	AE	CC4	Adp	AG				
NSS882	CG	CB	CA4	Cdp	CG				

ABBREVIATIONS

CD = Count Down
CK = Clock
CR = Clear
CU = Count Up
CV = Control Voltage
CY = Carry
CAP = Capacitor External
D = Down
EN = Enable
EQ = Equal
GT = Greater Than
GND = Ground
I = Input
LC = Load Count
LD = Load
LS = Load Shift
LT = Lamp Test
MC = Mode Control
MN = Max - Min
PI = Parallel Input
PR = Preset
O = Output
RC = Ripple Clock
RE = Reset
RCO = Ripple Carry Output
REX = Resistor External/ Capacitor External
RIN = Resistor Internal
S = Strobe
SI = Serial Input
SM = Sum
ST = Set
SEL = Select
SHF = Shift
TR = Trigger
THR = Threshold
U = Up
WS = Word Select

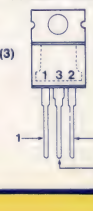
LINEAR PACKAGES

(TO-3)
(K) Metal Can Package

BOTTOM VIEW

(TO-92)
(Z) Plastic Package

(TO-220)
(T) Plastic Package



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Shreveport. . . . . Industrial Electronic Supply
Shreveport. . . . . Southern Electronics

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College Park. . . . . Electronics Plus
Damascus. . . . . Damascus C.B.
Glen Burnie. . . . . Revacto of Maryland
Laurel. . . . . The Comm Center
Lavale. . . . . J&M Electronics
Rockville. . . . . Heathkit Electronic Center
Rockville. . . . . Revacto Electronics
Suitland. . . . . Suburban Wholesalers
Towson. . . . . Baynesville Electronics

MASSACHUSETTS

Peabody. . . . . Heathkit Electronic Center
Pittsfield. . . . . Pittsfield Radio Equipment
Springfield. . . . . Sydlee Electronic Supply

MICHIGAN

Adrian. . . . . E&B Electronics
Adrian. . . . . Wedemeyer Electronics
Ann Arbor. . . . Wedemeyer Elect. Supply
Battle Creek. . . . . Warren Radio
Bay City. . . . . Kinde Distributing
Dearborn. . . . . Westside Radio & T.V.
Detroit. . . . . Electronic Parts Co.
Detroit. . . . . S&S Electronics
East Detroit. . . . . Electronic Parts Co.
East Detroit. . . . . Heathkit Electronic Center
Flint. . . . . Shand Electronics
Grand Rapids. . . . . Micro World Inc.
Grand Rapids. . . . . Radio Parts Inc.
Grand Rapids. . . . . T&W Electronics

MICHIGAN (Continued)

Grand Rapids. . . . . Warren Radio
Houghton. . . . . Techtronics
Jackson. . . . . Fulton Radio Supply
Lansing. . . . . Fulton Radio Supply
Lansing. . . . . Wedemeyer Elect. Supply
Livonia. . . . . Norwest Electronics
Madison Heights. . . . . Warren Radio
Melvin Dale. . . . Advance Electronic Services
Midland. . . . . Computronix
Muskegon. . . . . H&R Electronics
Niles. . . . . Niles Radio Supply
Saginaw. . . . . Ryder Distributing
Saginaw. . . . . Shand Electronics
Saint Clair Shores. . . . . Bell Electronics Co.
Taylor. . . . . Tel Van Electronic Supply
Traverse City. . . . Traverse City Elect. Supply
Westland. . . . . The Electronic Connection

MINNESOTA

Bemidji. . . . . Bemidji Electronics
Duluth. . . . . Northwest Radio of Duluth
Hopkins. . . . . Heathkit Electronic Center
Minneapolis. . . . . Acme Electronics
Saint Paul. . . . . Heathkit Electronic Center
Winona. . . . . Hiawatha Electronics

MISSISSIPPI

Biloxi. . . . . Electronic Parts
Biloxi. . . . . Hooper Electronic Supply
Brookhaven. . . . . Gillis Audio & Electronics
Jackson. . . . . Ellington Electronic Supply
Pascagoula. . . . . Hooper Electronic Supply

MISSOURI

Bridgeton. . . . . Heathkit Electronic Center
Cape Girardeau. . . . . Show Me Electronics
Columbia. . . . . Show Me Electronics
Kansas City. . . . . Electronic Supply Co. Inc.
Kansas City. . . . . Walters Radio
Rolla. . . . . Show Me Electronics
Sedalia. . . . . Show Me Electronics
Springfield. . . . . Show Me Electronics

MONTANA

Billings. . . . . Conley Radio Supply
Bozeman. . . . . Electronic Service & Dist.
Great Falls. . . . . Electric City Radio

NEBRASKA

Grand Island. . . . . G.I.Electronics
Lincoln. . . . . Scott Electronic Supply
Omaha. . . . . Scott Electronics

NEVADA

Las Vegas. . . . . Century 23
Sparks. . . . . Computer House

NEW JERSEY

Edison. . . . . William Electronic Supply
Fairlawn. . . . . Heathkit Electronic Center
Mantua. . . . . Electronic World
Ocean. . . . . Heathkit Electronic Center
Trenton. . . . . Laraco/Lafayette Radio
Vineland. . . . . Laraco/Vineland

NEW MEXICO

Alamagordo. . . . . Basin Electronics
Hobbs. . . . . Trice Electronics

NEW YORK

Amherst. . . . . Heathkit Electronic Center
Bethpage. . . . . Electronic No. 24 Inc.
Buffalo. . . . . Radio Equipment Corp.
Commack. . . . . Spartan Electronics
Hornell. . . . . Hornell Electronics
Jamestown. . . . . Warren Radio
Jericho. . . . . Heathkit Electronic Center
Johnson City. . . . . Unicorn Electronics
Kingston. . . . . Greylock Electronics
Middleton. . . . . Greylock Electronics
Newburgh. . . . . Action Audio Inc.

Authorized Distributors

NEW YORK (Continued)

New York. . . . . Taft Electronics
N. White Plains. . . . Heathkit Electronic Center
Poughkeepsie. . . . . Greylock Electronics
Rensselaer. . . . . Electronic Stockroom
Rochester. . . . . Heathkit Electronic Center
Troy. . . . . Trojan Electronic Supply
Utica. . . . . Central Electronics

NORTH CAROLINA

Greensboro. . . . . Heathkit Electronic Center
Winston-Salem. . . . . Trayer Inc.

NORTH DAKOTA

Fargo. . . . . Radio & TV Equipment
Fargo. . . . . S/S Electronics
Mandan. . . . . John Iverson Company

OHIO

Akron. . . . . Warren Radio
Canton. . . . . Electronic Center Inc.
Cincinnati. . . . . Heathkit Electronic Center
Cleveland. . . . . Heathkit Electronic Center
Dover. . . . . T.V. Specialties
Lima. . . . . Warren Radio
Mogadore. . . . . Olson Electronics
Parma. . . . . Superior Electronics
Reynoldsburg. . . . . Universal Amateur Radio
Toledo. . . . . Heathkit Electronic Center
Toledo. . . . . Warren Radio
Woodcliff. . . . . Amateur Electronic Supply
Youngstown. . . . . Ross Radio Co.

OKLAHOMA

Enid. . . . . Trice Electronics
Lawton. . . . . Trice Electronics
McAllister. . . . . Trice Electronics
Oklahoma City. . . . . Trice Electronics
Ponca City. . . . . Trice Electronics
Tulsa. . . . . Trice Electronics

OREGON

Albany. . . . . Oregon Ham Sales
Beaverton. . . . . Norvac Electronics
Corvallis. . . . . Zero Gee Electronics
Eugene. . . . . Norvac Electronics
Portland. . . . . Portland Radio Supply
Salem. . . . . Computer Specialties

PENNSYLVANIA

Braddock. . . . . Leff Electronics
Butler. . . . . Computer Center
Chambersburg. . . . . Sunrise Electronic Dist.
Drexel Hill. . . . . Kass Electronic Dist.
Erie. . . . . Warren Radio
Frazer. . . . . Heathkit Electronic Center
Lancaster. . . . . Harco Electronics
McKeesport. . . . . Barno Radio
Norristown. . . . . Computer Corner
Philadelphia. . . . . Heathkit Electronic Center
Philadelphia. . . . . Spectrum Electronics
Phoenixville. . . . . Stevens Radio Shack
Pittsburgh. . . . . South Hills Electronics
York. . . . . Computer Center of York

RHODE ISLAND

Cranston. . . . . Jabbour Electronics
Pawtucket. . . . . Jabbour Electronics
Providence. . . . . Hope Electronics

TENNESSEE

Bristol. . . . . Shields Electronics
Chattanooga. . . . . Metro Computer Center
Chattanooga. . . . . Shields Electronics
Knoxville. . . . . Shield's Electronic Supply
Memphis. . . . . Bluff City Electronics
Memphis. . . . . Memphis Amateur Electronics
Memphis. . . . . Warren Radio

TENNESSEE (Continued)

Murfreesboro. . . . . Standard Auto Parts
Nashville. . . . . Eddie Warners Inc.
Nashville. . . . . Electra Dist. Co.
Oak Ridge. . . . . National Electronics
Smyrna. . . . . Delker Electronics
Tullahoma. . . . . H&H Electronics

TEXAS

Brownsville. . . . . George's Electronic Mart
Dallas. . . . . Heathkit Electronic Center
Fort Worth. . . . . Heathkit Electronic Center
Harligen. . . . . George's Electronic Mart
Lubbock. . . . . Trice Electronics
McAllen. . . . . George's Electronic Mart
McKinney. . . . . Collin Business Equipment
Richardson. . . . Martin Wholesale Electronics
Richardson. . . . . Trice Electronics
Waco. . . . . L&M Wholesale

UTAH

Midvale. . . . . Heathkit Electronic Center
Ogden. . . . . Carter Supply Co.
Provo. . . . . Alpine Electronic Supply
Salt Lake City. . . . . Kimball Electronics
Salt Lake City. . . . . Mountain Coin Distributing

VERMONT

Burlington. . . . . Greylock Electronics
Essex Junction. . . . . I.E.S. Lafayette Radio

VIRGINIA

Alexandria. . . . . Heathkit Electronic Center
Annandale. . . . . Arcade Electronics
Arlington. . . . . Arlington Electronic Wholesalers
Blacksburg. . . . . Scotty's Radio & TV
Charlottesville. . . . . Graves Electronics
Hampton. . . . . Cain Electronics
Harrisonburg. . . . . Electrical Wholesalers
Lynchburg. . . . . Electronic Service Co.
Norfolk. . . . . Avec Electronics
Norfolk. . . . . Cain Electronics
Norfolk. . . . . Priest Electronics
Richmond. . . . . Avec Electronics
Roanoke. . . . . Avec Electronics
Vienna. . . . . Electronic Equipment Bank
Virginia Beach. . . . . Cain Electronics
Virginia Beach. . . . . Heathkit Electronic Center
Woodbridge. . . . . E.G.E.

WASHINGTON

Bellevue. . . . . A.B.C. Communications
Bellingham. . . . . Cascade Electronics
Kennewick. . . . . Satellite T.V.
Moses Lake. . . . . Ron's Electronics
Olympia. . . . . The Electronic Shop
Pullman. . . . . H&O Electronics
Richland. . . . . Radio Shack
Seattle. . . . . A.B.C. Communications
Seattle. . . . . Amateur Radio Supply
Seattle. . . . . Electronic Supply Co.
Seattle. . . . . Heathkit Electronic Center
Spokane. . . . . Bits, Bytes & Nibbles
Spokane. . . . . Don's Stereo Center
Tacoma. . . . . C&G Electronics

WEST VIRGINIA

Elkins. . . . . Custom Computing Co.
Fairmont. . . . . T.P.S. Electronics
Morgantown. . . . . Electro Dist. Co.
Wheeling. . . . . Industronics

WISCONSIN

Kenosha. . . . . Chester Electronic Supply

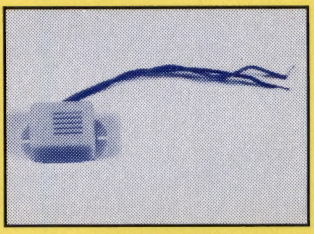
FOREIGN

Guam: Agana. . . . . Marianas Electronics
Guatemala. . . . . Electronica Pan Americana
Panama. . . . . Sonitel S.A.
Panama. . . . . Tropelco S.A.
Puerto Rico: Hato Rey Microcomputer Store

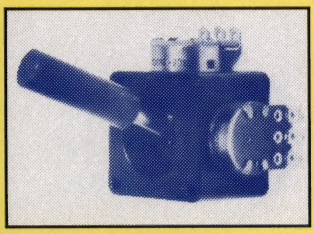
Jim-pak electronic components

Electronic Components

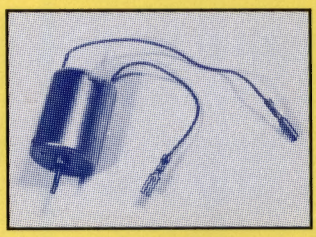
Test Leads



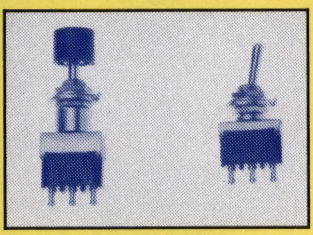
Mini-Buzzer



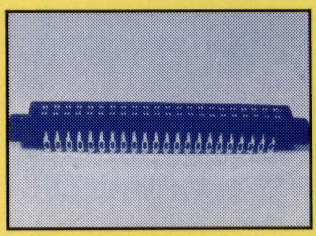
Joystick



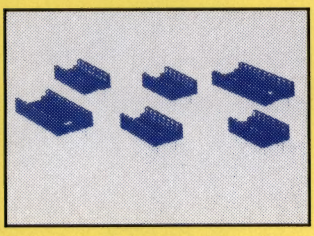
Robotic Motor



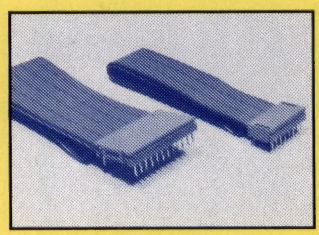
Switches



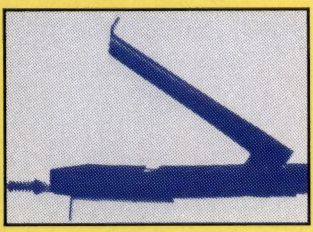
Edge Card Connector



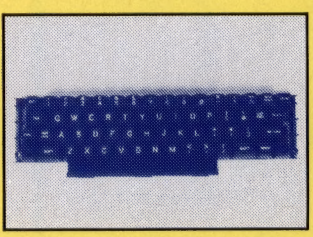
I.C. Sockets



Dip Jumper



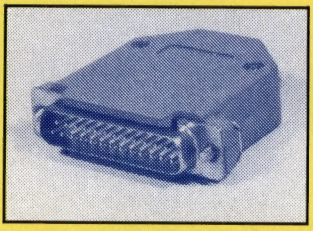
Nibbling Tool



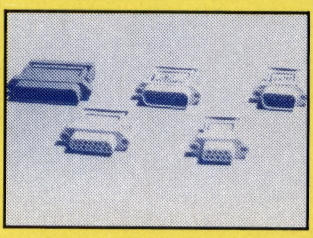
Keyboard

Jim-pak electronic components

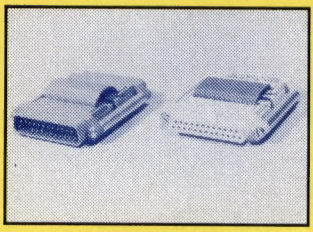
Electronic Components



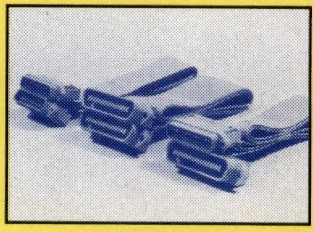
DB25P (RS232) Connector & Shell



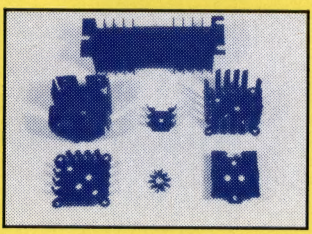
D-Subminiature Connectors



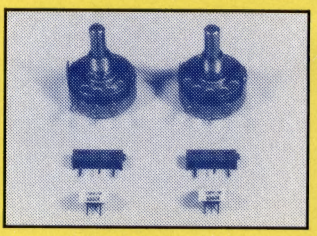
RS232 Gender Changers



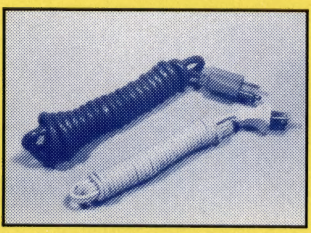
Cable Assemblies



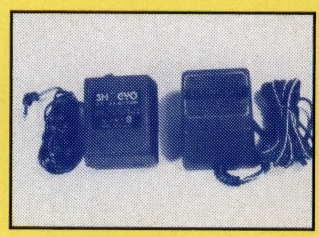
Heat Sinks



Potentiometers



Power Cords



Wall Transformers

Hexadecimal Keyboard

Grab Bags

New For 1985

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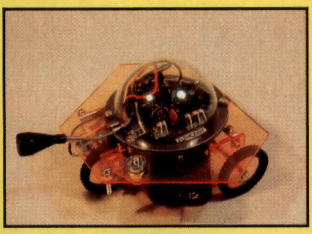
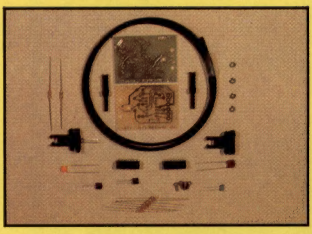
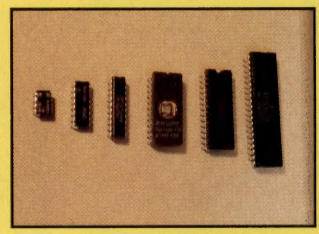


Robot Kits

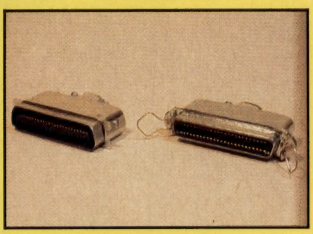


Fiber Optics Kit

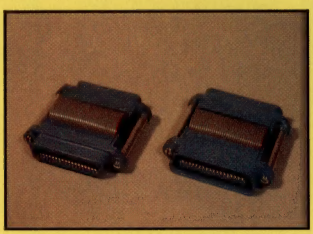
Memory Key Chain



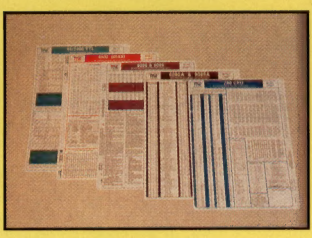
Integrated Circuits



50-Pin Ribbon Connectors



Centronics Gender Changers



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